

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions of the claims and listing of the claims in the application:

1. **(Original)** A method for identifying a gene product function, wherein the method comprises: adding at least one gene product to a compound cocktail; reacting the mixture; detecting a change that occurred in the compound cocktail; and thereby identifying the function of the gene product.
2. **(Original)** The method of claim 1, wherein the at least one gene product is obtained by expressing at least one gene encoding the gene product.
3. **(Original)** The method of claim 1 or 2, wherein the compound cocktail is a metabolic compound cocktail.
4. **(Currently Amended)** The method of claim 3, wherein the metabolic compound cocktail comprises ~~a compound(s)~~ one or more compounds selected from the group consisting of ~~fructose-1,6-phosphate~~ fructose-1,6-diphosphate, 6-phosphogluconate, ~~2,3-phosphoglycerate~~ 2,3-diphosphoglycerate, glucose-1-phosphate, fructose-6-phosphate, glucose-6-phosphate, ribulose-5-phosphate, ribose-5-phosphate, erythrose-4-phosphate, isocitric acid, citric acid, 2-phosphoglycerate, 3-phosphoglycerate, cis-aconitic acid, phosphoenolpyruvic acid, succinic acid, fumaric acid, lactic acid, and pyruvic acid.
5. **(Original)** The gene product function identification method of claim 1 or 2, wherein the compound cocktail is a cell extract.
6. **(Currently Amended)** The method of any one of claims 1 ~~to 5~~ or 2, wherein the change is detected using a capillary electrophoresis-mass spectrometer (CE/MS).
7. **(Original)** A method for identifying a binding substance to a gene product, wherein the method comprises: adding at least one gene product to a compound cocktail; reacting the

mixture; detecting a change that occurred in the compound cocktail; and thereby identifying a binding substance of the gene product.

8. **(Original)** A kit for identifying a gene product function, wherein the kit comprises a compound cocktail, and the function is identified by adding at least one gene product to the compound cocktail, reacting the mixture, and detecting a change occurred in the compound cocktail.
9. **(Original)** The kit of claim 8, wherein the compound cocktail is a metabolic compound cocktail.
10. **(Currently Amended)** The kit of claim 9, wherein the metabolic compound cocktail comprises a ~~compound(s)~~ one or more compounds selected from the group consisting of ~~fructose-1,6-phosphate~~ fructose-1,6-diphosphate, 6-phosphogluconate, ~~2,3-phosphoglycerate~~ 2,3-diphosphoglycerate, glucose-1-phosphate, fructose-6-phosphate, glucose-6-phosphate, ribulose-5-phosphate, ribose-5-phosphate, erythrose-4-phosphate, isocitric acid, citric acid, 2-phosphoglycerate, 3-phosphoglycerate, cis-aconitic acid, phosphoenolpyruvic acid, succinic acid, fumaric acid, lactic acid, and pyruvic acid.
11. **(Original)** The kit of claim 8, wherein the compound cocktail is a cell extract.
12. **(Original)** A kit for identifying a binding substance of a gene product, wherein the kit comprises a compound cocktail, and the binding substance is identified by adding at least one gene product to the compound cocktail, reacting the mixture and detecting a change that occurred in the compound cocktail.